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Tsunami-tendenko and morality in disaster situations

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Title: *Tsunami-tendenko* and morality in disaster situations

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ABSTRACT

Disaster planning challenges our morality. Everyday rules of action may need to be suspended during large-scale disaster situations in favor of maxims that are rationally acceptable but emotionally hard to accept, such as *tsunami-tendenko*. This maxim dictates the individual not to stay and help others but to run and preserve his or her life instead. *Tsunami-tendenko* became well known after the Great East Japan Earthquake on March 11, 2011, when almost all the elementary and junior high school students in one city survived the tsunami because they had been taught this maxim for several years. While *tsunami-tendenko* has been praised, two of its criticisms merit careful consideration: one, that the maxim is selfish and immoral; and two, that it goes against the natural tendency to try to save others in dire need and cannot possibly be followed. In this paper, I will explain the concept of *tsunami-tendenko* and then respond to these criticisms. Such ethical analysis is essential for dispelling confusion and doubts about evacuation policies in a disaster situation.

WHAT IS *TSUNAMI-TENDENKO*?

In Kamaishi, Japan (estimated population: 40,000), about 1,200 residents were designated as missing or killed after devastation of the city by the Great East Japan Earthquake on March 11, 2011 (also known as the 3.11 earthquake) and resultant tsunami. Almost all 2,900 elementary and junior high school students, however, survived the calamity. This remarkable feat was due not to pure luck but rather a disaster education program started in 2005. One of the topics extensively taught was *tsunami-tendenko*, a rule of action that dictated one to “run for your life to the top of the hill and never mind others or even your family when the tsunami comes”. (*Tendenko* is a dialectal expression that translates as “go separately”).[1]

Tsunami-tendenko is a traditional idea from the Sanriku region of northeastern Japan (facing the Pacific Ocean), where tsunami disasters have frequently occurred. The phrase itself became well known after Fumio Yamashita, a historian of Japanese tsunami disasters, described his own experience with the Great Tsunami of 1933. His father fled from the approaching tsunami and left behind his family, including then nine-year-old Yamashita. When criticised by his wife afterwards, Yamashita’s father would answer, “It’s *tendenko*, as they say.” He previously lost his mother (Yamashita’s grandmother) in the Great Tsunami of 1896 because she spent time trying to save her infant daughter. Yamashita told this story to emphasise the importance of avoiding *tomo-daore*, where the rescuer loses his or her life along with the victim.[2, 3]

Tomo-daore was a serious issue during the tsunami from the 3.11 earthquake. According to a central government report, more than 40 percent of the tsunami survivors did not evacuate immediately after the quake because they searched for family members or went home.[4] Most of the casualties likely fell into this category as well. For example, some elementary schools in tsunami-stricken areas had the disaster policy of handing students to their parents. Unfortunately, many of the students were killed by the tsunami because the parents then tried to go back home and meet up with other family members before evacuating.[5] Towns with the

so-called policy of “collective evacuation” also suffered heavy casualties because people spent potential escape time gathering and waiting at the town hall instead.[6]

The successful evacuation of the Kamaishi school children led to wide recognition and praise of *tsunami-tendenko*. [1, 7] Reportedly, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) is even planning to teach the maxim as a part of nationwide disaster education in elementary and secondary schools.[8] However, there are at least two important criticisms of *tsunami-tendenko* that should be carefully examined and responded to before considering full implementation.

THE TWO CRITICISMS OF *TSUNAMI-TENDENKO*

One criticism of the maxim is that it promotes egoism. After the 3.11 earthquake, a mayor was quoted as saying, “I wonder if it is right to teach kids to run for themselves even when they have a bed-ridden grandmother at home.”[9] To be sure, “run for your life to the top of the hill and never mind others or even your family” sounds egoistic and seems diametrically opposed to what we have been taught and what kids should be taught about the moral responsibility to help others in need.

The second, and related, criticism of the maxim is that it is psychologically difficult or plainly impossible to follow when the life of a loved one or neighbor is at stake. A volunteer firefighter who lost teammates while helping an elderly, bed-ridden woman to evacuate said, “It’s only our human nature to go save others when we hear the word ‘Help!’ It really came home to me this time that it is humanly impossible to follow *tsunami-tendenko*.”[10] A professor was similarly quoted as saying, “Perhaps the teaching of *tsunami-tendenko* has been told time and again precisely because it is too much against our human nature (to care for others) to follow the maxim with ease.”[11]

The first criticism appears to be that the maxim is morally wrong, while the second appears to be that the maxim may not be morally wrong but is psychologically difficult or impossible to follow. The next two sections will respond to these criticisms.

IS *TSUNAMI-TENDENKO* EGOISTIC?

I would contend that practicing *tsunami-tendenko* is not being egoistic. It is best construed as a utilitarian maxim that can maximise the number of lives saved if enough people follow it. In contrast, the ostensibly moral maxim of “helping others in need” may not maximise or even minimise the number of lives saved.

To illustrate this point, it may be useful to compare a tsunami disaster to the prisoner’s dilemma. Both situations can be characterised as acting with uncertainty about the other party’s behavior. In a typical prisoner’s dilemma, two suspects of a crime are placed in different interrogation rooms and given the choice to either “confess and receive some sentence mitigation” or “do not confess and receive the full sentence” (Table 1). If neither suspect confesses, the total number of years spent in prison will be much shorter than what they would get if both confessed. However, because each suspect does not know what the other will choose to do, they both decide to confess out of self-interest and end up worse off than if they had trusted each other to not confess.

Table 1. The prisoner’s dilemma

	A does not confess	A confesses
B does not confess	Both receive 3 years in prison	A receives 1 year in prison B receives 15 years in prison
B confesses	B receives 1 year in prison A receives 15 years in prison	Both receive 10 years in prison

A similar situation, which I will call the tsunami dilemma, can occur when a tsunami is expected to hit an area soon and people would be killed unless they evacuate immediately. If two separated family members decide

to look or wait for each other, both will likely die in this lose-lose, *tomo-daore* situation. If each one decides to run for his or her life, however, both will more likely than not survive (Table 2). However, because each person does not know what the other will choose to do, they may both decide to look or wait for each other and end up worse off than if they had both run for their lives.

Table 2. The tsunami dilemma

	A does not search for B (runs for his/her life)	A searches for B
B does not search for A (runs for his/her life)	Both likely to survive (<i>Tsunami-tendenko</i>)	B likely to survive, A likely to die
B searches for A	A likely to survive, B likely to die	Both likely to die (<i>Tomo-daore</i>)

An obvious difference between the prisoner's dilemma and the tsunami dilemma is the motive behind the actions. People involved in a tsunami dilemma do not act solely out of self-interest, which is a standard supposition in the prisoner's dilemma. Thus, while concern for oneself prevents mutual cooperation in the prisoner's dilemma, concern for others leads to *tomo-daore* in the tsunami dilemma. This does not necessarily imply, however, that those who follow *tsunami-tendenko* are egoistic (i.e., acting out of self-interest). They may adopt the maxim because they are concerned for others but wish to avoid *tomo-daore*. By following *tsunami-tendenko*, they are actually cooperating and not betraying each other.

For *tsunami-tendenko* to work, there must be trust between the two parties to remove any doubt that one is looking for the other. *Tsunami-tendenko* disaster education for the students in Kamaishi included children repeatedly telling their parents, "I will evacuate without fail. So please run away and don't come searching for me." The parents in turn were

asked by the teachers to discuss this issue with their children until they were absolutely certain the students would run away on their own initiative.[12]

I believe that *tsunami-tendenko* is not an egoistic maxim but rather a teaching justified by indirect utilitarianism. It is indirect because the rule of action individuals are expected to follow is not one of maximising the happiness of all concerned, but of saving an individual's own life to collectively maximise the total number of lives saved. To achieve this goal, one not only needs to internalise *tsunami-tendenko* but also cultivate trust among all concerned to guarantee they will also follow the maxim. *Tsunami-tendenko* is emphatically not egoistic in disaster situations where the ordinary morality of helping others in need does not apply.

***TSUNAMI-TENDENKO* AND PSYCHOLOGY**

I now turn to the criticism that *tsunami-tendenko* is psychologically difficult or impossible to follow. Human beings sometimes feel a strong urge to help those in need, known in bioethics literature as the rule of rescue: "Our moral response to the imminence of death demands that we rescue the doomed [at whatever cost]."[13] This rule is considered to be a deontological constraint that limits the maximisation of total utility.

This second criticism of *tsunami-tendenko* may seem slightly odd, given that some Japanese did follow the maxim during the 3.11 earthquake and that the MEXT plans to teach it to school children. Proponents and opponents of *tsunami-tendenko* may have different scenarios in mind for their arguments. To further examine where the psychological difficulty lies, let us consider three situations where the dilemma between running to safety and helping others may occur.

In the first situation, you would not know if your loved one is safe but would know that they are able to evacuate by themselves. *Tsunami-tendenko* works best in this scenario, provided that all involved parties thoroughly discussed their options beforehand in a manner similar to the disaster education of the Kamaishi schoolchildren.

In the second situation, you would not know if your loved one is safe

and would know that they are *unable* to evacuate by themselves. This scenario is clearly more psychologically difficult than the first because *tsunami-tendenko* could necessitate giving up on your loved one. The mayor quoted in a previous section may have been thinking of this situation when he wondered if it is right to teach kids to run for themselves even with a bed-ridden grandmother at home. We have to bear in mind, however, that these situations are very uncertain. For example, a rescue worker may have helped your loved one evacuate. Following *tsunami-tendenko* may still be the right choice, albeit more psychologically difficult.

In the third situation, you would know that your loved one is *not* safe and that they are *unable* to evacuate by themselves. The volunteer firefighter quoted in a previous section may have been thinking of this scenario when recounting the deaths of his teammates. I do not believe it is right to follow *tsunami-tendenko* when one is a professional rescue worker (e.g., firefighters and police officers). If there is no one to help those in need, we would all be much worse off and unable to follow *tsunami-tendenko* in the second situation if a loved one was guaranteed to die. If citizens can rely on rescue workers doing their best to rescue people, however, we would all be better off. These professionals are trained to rescue others while minimising the risk to their own lives and are therefore expected to offer help in disaster situations.

But what if you are not a firefighter or other rescue worker, but only a parent of several children? Leaving them behind would be very difficult psychologically, and few would likely disparage mothers and fathers who die while trying to save their children. This psychological difficulty or seeming impossibility, however, should not be the main reason to reject *tsunami-tendenko* as the correct evacuation policy. Indeed, following the maxim in this scenario is not impossible because Fumio Yamashita's father did exactly that, as previously mentioned.

Yamashita wrote that when the tsunami hit his town in 1933, no one in his family helped him to evacuate. Nine-year-old Yamashita ran up a snowy hill alone and barefoot. He later discovered that his friends had the same experience and realised *tsunami-tendenko* was the best strategy for

maximising the number of lives saved. Yamashita thus repeatedly emphasised that however cruel it might seem, one must always remember to run for his or her life to prevent *tomo-daore*.^[3] Yamashita's story shows the importance of education and trust within both the family unit and the community in order for *tsunami-tendenko* to be most effective.

I would dare to suggest that *tsunami-tendenko* is the right evacuation policy in all the situations described above, unless you are a rescue professional with a duty to save others. Tsunami disasters are very exceptional, and as such our psychological response may not be the best guide in finding a maxim to follow. Any psychological barriers to following *tsunami-tendenko* may need to be overcome through education and advance disaster planning for people unable to evacuate by themselves.

CONCLUSION

The maxim of *tsunami-tendenko* has the beauty of simplicity but needs some clarifications and limitations. When teaching this concept, the importance of trust among loved ones must be emphasised to achieve the aim of maximising the number of lives saved. It is also important to emphasise that *tsunami-tendenko* is not an egoistic maxim. Finally, a different maxim may need to be articulated for rescue professionals.

This ethical analysis is essential for dispelling confusion and doubts about evacuation policies. My elucidation on *tsunami-tendenko* may entail further development, but I firmly believe this discussion will better prepare people to save more lives in tsunami-prone areas around the world.

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